

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF VIRGINIA  
ALEXANDRIA DIVISION**

|                           |   |                                  |
|---------------------------|---|----------------------------------|
| DIALECT, LLC,             | ) |                                  |
|                           | ) |                                  |
| Plaintiff,                | ) |                                  |
|                           | ) | Civil Action No. 1:23-cv-581-DJN |
| v.                        | ) |                                  |
|                           | ) | JURY TRIAL DEMANDED              |
| AMAZON.COM, INC., et al., | ) |                                  |
|                           | ) |                                  |
| Defendants.               | ) |                                  |
|                           | ) |                                  |

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**RESPONSIVE CLAIM CONSTRUCTION BRIEF OF  
AMAZON.COM, INC. AND AMAZON WEB SERVICES, INC.**

**REDACTED VERSION**

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**TABLE OF EXHIBITS<sup>1</sup>**

| <b>Exhibit Number</b> | <b>Description</b>   |
|-----------------------|--|
| 1                     | Email from Justin Constant to Amazon's Counsel dated March 5, 2024   |
| 2                     | Xuedong Huang, Alex Acero, and Hsiao-Wuen Hon, SPOKEN LANGUAGE PROCESSING: A GUIDE TO THEORY, ALGORITHM, AND SYSTEM DEVELOPMENT (2001) |
| 3                     | Dialect's Initial Proposed Claim Constructions dated February 15, 2024   |
| 4                     | IEEE100: THE AUTHORITATIVE DICTIONARY OF IEEE STANDARDS TERMS (7th ed. 2000)   |
| 5                     | James Allen, NATURAL LANGUAGE PROCESSING (2d ed. 1995)   |
| 6                     | Email from Donna Long to Dialect's Counsel dated March 13, 2024  |
| 7                     | VoiceBox Mobile and HTTP Web Services Platform 3.0 Software Development Kit and Programming Guide                                      |
| 8                     | VoiceBox Response to Intel Interview Questions   |

| <b>Docket Number</b> | <b>Asserted Patent</b>    | <b>Asserted Claims</b> |
|----------------------|---------------------------|------------------------|
| 1-2                  | U.S. Patent No. 7,693,720 | 1, 4, 14, 19, 31, 32   |
| 1-3                  | U.S. Patent No. 8,015,006 | 1, 2, 3, 5, 10, 11     |
| 1-5                  | U.S. Patent No. 8,195,468 | 19, 20, 28, 29, 30, 32 |
| 1-7                  | U.S. Patent No. 9,263,039 | 13, 14, 15, 16, 17, 18 |
| 1-8                  | U.S. Patent No. 9,495,957 | 1, 3, 4, 5, 7, 8       |

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<sup>1</sup> Exhibits 1-6 are filed with Amazon's Opening Claim Construction Brief. *See* Dkts. 158-3 to 158-8. Exhibits 7 and 8 are attached to the Declaration of Donna Long filed concurrently herewith.

**TABLE OF DISPUTED TERMS AND CONSTRUCTIONS**

| <b>Claim Term</b>   | <b>Amazon Construction</b>   | <b>Dialect Construction</b>  |
|---|--|--|
| <p>“context”</p> <p>720 patent, claims 1, 31.<br/>006 patent, claims 1, 2, 3, 5, 10.<br/>468 patent, claims 19, 28.<br/>039 patent, claims 13, 17, 18.<br/>957 patent, claims 1, 7.</p> | <p>a domain or application area that defines a set of questions that can be activated or deactivated during a conversation</p>         | <p>Plain and ordinary meaning</p>  |
| <p>“context stack”</p> <p>006 patent, claim 2.<br/>468 patent, claims 19, 28.<br/>957 patent, claims 1, 3, 4, 7.<br/>039 patent, claim 17.</p>  | <p>an ordered list of elements, each element storing or referencing a context</p>  | <p>Plain and ordinary meaning, or in the alternative a data structure that stores or references contexts</p>               |
| <p>“context entries”</p> <p>957 patent, claims 1, 3, 4, 5, 7.</p>   | <p>elements of an ordered list, each element storing or referencing the context associated with a prior utterance</p>                  | <p>Plain and ordinary meaning, or in the alternative contexts or references to contexts</p>                                |
| <p>“entries in a context stack”</p> <p>468 patent, claim 19.</p>  | <p>elements of an ordered list, each element storing or referencing a context</p>  | <p>Plain and ordinary meaning, or in the alternative contexts or references to contexts</p>                                |
| <p>“grammar”</p> <p>720 patent, claims 1, 31.<br/>006 patent, claims 1, 5, 10.<br/>039 patent, claim 13.</p>  | <p>a formal specification of the permissible structures for a language</p>   | <p>Plain and ordinary meaning, or in the alternative, “a set of principles that govern an acceptable input or request”</p> |
| <p>“domain agent”</p> <p>720 patent, claims 1, 31.<br/>006 patent, claims 1, 2, 5, 10.<br/>468 patent, claims 19, 30, 32.<br/>039 patent, claims 13, 14.</p>                            | <p>a software package or module that receives, processes and responds to user questions, queries and commands in a specific domain</p> | <p>software with domain-specific behavior and information</p>  |
| <p>“procedures sensitive to the determined context”</p> <p>006 patent, claim 5.</p>   | <p>Indefinite under 35 U.S.C. § 112</p>  | <p>Plain and ordinary meaning, or in the alternative procedures that consider the determined context</p>                   |

| Claim Term   | Amazon Construction   | Dialect Construction  |
|--|---|---|
| <p>“a parser that interprets the recognized words or phrases, wherein the parser uses at least the data received from the plurality of domain agents to interpret the recognized words or phrases, wherein the parser interprets the recognized words or phrases by:</p> <p style="padding-left: 40px;">determining a context for the natural language speech utterance;</p> <p style="padding-left: 40px;">selecting at least one of the plurality of domain agents based on the determined context; and</p> <p>transforming the recognized words or phrases into at least one of a question or a command . . .”</p> <p>(720 patent, claim 1)</p> | <p>Subject to 35 U.S.C. § 112, ¶ 6.</p> <p><b>Functions:</b> entire limitation, except “a parser that” and “wherein the parser”</p> <p><b>Structure:</b> None disclosed. Indefinite.</p>                            | <p>Not subject to 35 U.S.C. § 112, ¶ 6.</p> <p>The term “parser” should be accorded a plain and ordinary meaning or in the alternative, software that analyzes a string of words.</p> |
| <p>“determining, at a parser connected to the computer device on the vehicle, a context for the natural language speech utterance;</p> <p>selecting, at the parser connected to the computer device on the vehicle, at least one of the plurality of domain agents based on the determined context;</p> <p>transforming, at the parser connected to the computer device on the vehicle, the recognized words or phrases into at least one of a question or a command, wherein the at least one question or command is formulated in a grammar that the selected domain agent uses to process</p>   | <p>Subject to 35 U.S.C. § 112, ¶ 6.</p> <p><b>Functions:</b> entire limitation, except “at [a/the] parser connected to the computer device on the vehicle”</p> <p><b>Structure:</b> None disclosed. Indefinite.</p> | <p>Not subject to 35 U.S.C. § 112, ¶ 6.</p> <p>The term “parser” should be accorded a plain and ordinary meaning or in the alternative, software that analyzes a string of words.</p> |



| Claim Term  | Amazon Construction   | Dialect Construction   |
|---|---|--|
| the formulated question or command”<br>(720 patent, claim 31)   |   |  |
| “parsing, at a parser coupled to the processing device, [the one or more recognized words or phrases / information relating to the utterance] to determine a meaning associated with the utterance and a context associated with the request contained in the utterance, [wherein the one or more recognized words or phrases are further associated with the determined context in response to the one or more recognized words or phrases satisfying the predetermined confidence level];<br><br>formulating, at the parser, the request contained in the utterance in accordance with a grammar used by a domain agent associated with the determined context”<br>(006 patent, claims 1, 10) | Subject to 35 U.S.C. § 112, ¶ 6.<br><br><b>Functions:</b> entire limitation, except “at a parser coupled to the processing device” and “at the parser”<br><br><b>Structure:</b> None disclosed. Indefinite. | Not subject to 35 U.S.C. § 112, ¶ 6.<br><br>The term “parser” should be accorded a plain and ordinary meaning or in the alternative, software that analyzes a string of words. |
| “parsing, at a parser coupled to the processing device, information relating to the utterance to determine a meaning associated with the utterance and a context associated with the request contained in the utterance . . . ;<br><br>formulating, at the parser, the request contained in the utterance in accordance with a grammar used by a domain agent associated with the determined context, wherein   | Subject to 35 U.S.C. § 112, ¶ 6.<br><br><b>Functions:</b> entire limitation, except “at a parser coupled to the processing device” and “at the parser”<br><br><b>Structure:</b> None disclosed. Indefinite. | Not subject to 35 U.S.C. § 112, ¶ 6.<br><br>The term “parser” should be accorded a plain and ordinary meaning or in the alternative, software that analyzes a string of words. |

| Claim Term  | Amazon Construction | Dialect Construction |
|---|---------------------|----------------------|
| <p>formulating the request . . . includes:</p> <p>determining one or more required values and one or more optional values associated with formulating the request in the grammar used by the domain agent;</p> <p>extracting one or more criteria and one or more parameters from one or more keywords contained in the one or more recognized words or phrases . . . ;</p> <p>inferring one or more further criteria and one or more further parameters associated with the request using a dynamic set of prior probabilities or fuzzy possibilities; and</p> <p>transforming the one or more extracted criteria, the one or more extracted parameters, the one or more inferred criteria, and the one or more inferred parameters into one or more tokens, wherein the one or more tokens include all the required values and one or more of the optional values associated with formulating the request in the grammar used by the domain agent”</p> <p>(006 patent, claim 5)</p> |                     |                      |

Amazon submits this response brief addressing the disputed claim terms.<sup>2</sup>

# I. “context”

| Term   | Amazon Construction   | Dialect Construction       |
|--|---|----------------------------|
| “context”<br>720 patent, claims 1, 31.<br>006 patent, claims 1, 2, 3, 5, 10.<br>468 patent, claims 19, 28.<br>039 patent, claims 13, 17, 18.<br>957 patent, claims 1, 7. | a domain or application area that defines a set of questions that can be activated or deactivated during a conversation | Plain and ordinary meaning |

Dialect argues that “context” should take its plain and ordinary meaning. (Dkt. 159 (“Dialect Br.”) at 9-11.) It asserts, without support, that the Court need not construe the term because a skilled artisan would understand the term to have *some* “plain and ordinary meaning”—a meaning that Dialect refused to actually identify or explain in its brief. (*Id.* at 9.)

The Federal Circuit has held that it is “inadequate” for a court to rule merely that “plain and ordinary meaning” applies when doing so does not resolve the parties’ dispute over claim scope. *O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361-62 (Fed. Cir. 2008); *see also Eon Corp. IP Holdings v. Silver Spring Networks*, 815 F.3d 1314, 1319-20 (Fed. Cir. 2016). Instead, the Court must “instruct the jury on the meanings to be attributed to all disputed terms used in the claims in suit so that the jury will be able to ‘intelligently determine the questions presented.’” *Sulzer Textil A.G. v. Picanol N.V.*, 358 F.3d 1356, 1366 (Fed. Cir. 2004); *see Eon*, 815 F.3d at 1319 (collecting cases). And “[i]t is critical for trial courts to set forth an *express* construction of the material claim terms in dispute” because “the claim construction becomes the basis of the [Court’s] jury instructions.” *AFG Indus., Inc. v. Cardinal IG Co.*, 239 F.3d 1239, 1247 (Fed. Cir. 2001).<sup>3</sup> Here, because Dialect did not identify its purported “plain and

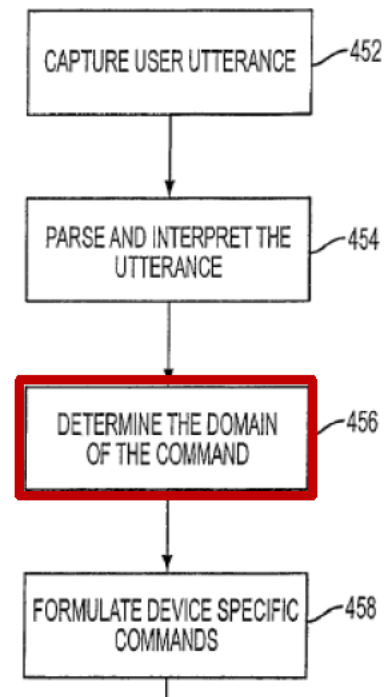
<sup>2</sup> Amazon does not anticipate presenting live expert testimony at the Markman hearing. To the extent Dialect seeks to present such testimony, Amazon reserves the right to call Dr. Michael Johnson. *See* Dkt. 158-1, Appendix A (Dr. Johnson’s CV).

<sup>3</sup> All emphasis added unless otherwise noted.

ordinary meaning” for the Court’s consideration, adopting Dialect’s non-construction would force the parties to dispute the meaning of the term at trial, in front of the jury, which is not allowed and will subject the Court to reversal. *Eon*, 815 F.3d at 1319 (“By determining only that the terms should be given their plain and ordinary meaning, the court left this question of claim scope unanswered, leaving it for the jury to decide. This was legal error.”)

Dialect asserts that “context” “refer[s] to the inventions’ considerations of context for user input.” (Dialect Br. at 1-2.) But this simply repeats the fact that the claims use the term “context,” without explaining what the term means. Dialect also quotes parts of the specification that mention “context,” but it does not explain the significance of these quotations to the meaning of the term. (*Id.* at 10-11.) By failing to articulate what the plain and ordinary meaning is, Dialect’s proposal improperly leaves this issue of law for the jury to decide. For this reason alone, the Court should reject Dialect’s proposal.

The decision of the *VB Assets* district court that Dialect cites does not change the fact that, *in this case*, the parties have a dispute about claim scope that the Court must resolve. The asserted patents here have different claims and specifications than the *VB Assets* patents. Dialect does not attempt to show otherwise. And Amazon’s construction captures the process described in the asserted patents, which is shown in Fig. 4B of the 006 patent (right, cropped). After receiving the user’s utterance, the system must **determine the domain or application area to which it relates**, as shown in box 456 to the right—for example, “weather.” (See, e.g., 720 patent at 27:56-66.) This is the “context” of the utterance to which the claims and specification refer. (*Id.*) The context determines the domain agent—a specific software module that will be invoked to generate a response. (*Id.*) After the



system has identified the context, the system formulates a question that can be processed by the domain agent and passes the question to the domain agent for processing. (*Id.* at 28:25-29.) Thus, in the asserted patents in this case, “a context defines a set of questions that can be activated or deactivated during a conversation.” (468 patent at 32:55-58; *see* Dkt. 158 (“Amazon Br.”) at 5.) “[T]he manner in which the term is used in the patent may dictate a definition that differs from the definition that would be given to the same term in a different patent with a different specification.” *Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1318 (Fed. Cir. 2005). This is because the two most important sources of evidence in claim construction are the claims and specification of the patent itself. *Trs. Of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1362 (Fed. Cir. 2016). Neither party in *VB Assets* proposed construing “context” as defining a set of questions, because those were different patents that described different inventions. But that is what the patents require here.

Moreover, while the word “context” has a generic meaning to a layperson, that is a different meaning than the one it takes in the speech recognition and natural language understanding technology of the patents.<sup>4</sup> (Dkt. 158-1 (“Johnson Decl.”) at ¶¶ 47-67.) First, to determine the meaning of the claim term, one starts with the claims. Here, the claims require determining a single “context” for a user’s utterance, selecting a “domain agent” based on the determined context,

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<sup>4</sup> Dialect’s definition of the level of ordinary skill in the art is overly broad, encompassing anyone with a bachelor’s degree in any kind of “engineering” and two years of experience in any kind of “engineering.” (Dialect Br. at 8.) The patents are directed to the specific fields of “voice recognition and NLU [natural language understanding]”—not engineering in general. (Dkt. 35, Am. Compl. ¶ 39.) The Court should adopt Dr. Johnson’s understanding of the level of ordinary skill, which requires a bachelor’s degree in “Computer Science, Computer Engineering, Electrical Engineering, or a related field in computing technology” and two years of “computer science (or related) experience with automatic speech recognition and natural language understanding.” (Johnson Decl. ¶ 45); *see Merck & Co. v. Teva Pharms. USA, Inc.*, 347 F.3d 1367, 1371-72 (Fed. Cir. 2003) (pharmaceutical claim should be construed as understood by persons with “knowledge of the pharmacology and usage of biphosphonates,” and not a “general chemist”).

and formulating a question or command in a “grammar” used by the selected domain agent. (*E.g.*, 720 patent cls. 1, 31; *see* Amazon Br. at 3-5; Johnson Decl. ¶¶ 54-59, 65.) And the “context” has its own specification of permissible language structures, which is stored as an entry in a “context description grammar.” (039 patent, cl. 13; *see* Johnson Decl. ¶¶ 63, 90.) Thus, the patents explain that by identifying “a context”—*i.e.*, a domain or application area that should service the user’s request like weather—the applicable domain agent can be selected and the user request can be formulated using the permissible language structures for that context, which the selected domain agent understands and can process. For this process to work, the “context” must be a specific, identifiable piece of information. Dialect asserts that “context may include a variety of data associated with user input (e.g., location, dialog history, time, date).”<sup>5</sup> (Dialect Br. at 12.) But merely knowing any “data associated with user input”—*e.g.*, what device the user spoke to, where the device is located, or the date and time—is not sufficient to identify a specific domain agent to process the request and a specific grammar to formulate the question, as the claims require. Thus, “context” cannot just be any “data associated with user input” as Dialect proposes, since that would render the claimed invention inoperable.

“The specification is the ‘single best guide to the meaning of a disputed term,’ and ‘is, thus, the primary basis for construing the claims.’” *Trs. of Columbia Univ.*, 811 F.3d at 1362. Here, the specification defines the term “context” and Amazon’s construction tracks the definition: “The voice query language may be sensitive to the contents of the context stack, wherein ***a context defines a set of questions that can be activated or deactivated during a conversation.***” (468 patent at 32:55-58; 039 patent at 20:1-4; 957 patent at 33:44-47.) This definition aligns with the

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<sup>5</sup> As explained in Section VI, Dialect’s position that any “data associated with user input” can be the claimed “context” renders meaningless the claim limitation “wherein the parser extracts the one or more criteria and the one or more parameters using procedures sensitive to the determined context.” (006 patent, cl. 5.)



patents' goal of translating a user's natural language input into a "machine processable form" that a computer can use to generate a response. (*E.g.*, 720 patent at 2:1-22.) The patents use domain agents to provide domain-specific behavior and information, and thus the speech system must formulate a question that can be processed by the specific domain agent that will be invoked. (*See* Amazon Br. at 5-6; Johnson Decl. ¶¶ 60-64.) The claims recite that this question is formulated "based on the determined context," *i.e.*, based on the domain or application area of the user's utterance. (720 patent cls. 1, 31; *see also* 006 patent cls. 1, 5, 10; 468 patent cl. 19.) Thus, a "context" in the asserted claims is a domain or application area, such as weather or driving directions, that defines a set of questions that can be activated or deactivated during a conversation.

None of Dialect's purported "examples" from the specifications change this conclusion. (Dialect Br. at 10-11.) That the device location may be *used* "***as part of*** the context for the questions asked" is irrelevant. (720 patent at 4:1-4.) The claims recite "determining a context for the natural language speech utterance." (*E.g.*, 720 patent cls. 1, 31.) The determined context must be a domain or application area. This is because the claims require determining a single "context" for an utterance and using that context to select a corresponding domain (application) agent and formulate a question. (*Id.*; 006 patent cls. 1, 5, 10; 468 patent cl. 19.) The device location (*e.g.*, Richmond, Virginia) may be a useful input, but it is not enough by itself for the system to decide whether it should select the weather agent, the driving directions agent, or some other domain agent. (Johnson Decl. ¶¶ 66-67.) For the same reasons, the claimed "context" cannot be merely a time, location, or textual search results as Dialect argues.<sup>6</sup> According to the specification, these

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<sup>6</sup> Dialect cites an embodiment in the 957 patent specification in which the text of an utterance has been compared against entries of a context description grammar but "a match is not found," *i.e.*, the utterance does not fit the permissible language structures for any particular context. (957 patent at 20:47-53; *see id.* at 20:34-38.) The specification says that as a second attempt to identify a domain, the system tries to "determine a most likely context" from "a set of expected contexts that are stored in a context stack," and in doing so it "may use ***context specific matchers that are***

types of information are “criteria” or “context information.” (*E.g.*, 720 patent at 28:43-44 (“For a weather *context*, examples of *criteria* include location, date and time.”); *see* Amazon Br. at 6-7; Johnson Decl. ¶¶ 66-67.) Both “criteria” and “context information” are recited in the claims separate from “context” alone. (006 patent cl. 5; 957 patent cls. 1, 7.) For example, claim 5 of the 006 patent recites separate steps of determining “a context associated with the request in the utterance” and “extracting one or more criteria and one or more parameters” from the recognized words. In other words, you determine the domain or application area to which the user’s utterance relates, and this is the context—for example, the utterance relates to weather. Once you have identified that context, you can then identify criteria from the utterance itself—for example, the location of interest is Richmond, Virginia—before formulating the question for generating the response back to the user. In these circumstances, the two different terms used by the patents refer to “two separate concepts.” *Impulse Tech. Ltd. v. Microsoft Corp.*, 665 F. App’x 872, 878 (Fed. Cir. 2016). Dialect’s arguments conflate these distinct terms.

Products of VoiceBox Technologies that Dialect argues embody the claimed invention confirm that Amazon’s construction is the right one.<sup>7</sup> When a patentee concedes that its embodiment meets the limitations of a claim, the Court may consider that embodiment during claim construction. *Diversey, Inc. v. POPS Techs., LLC*, No. 1:18-CV-4210-AT, 2021 WL 3398149, at \*1 (N.D. Ga. Apr. 12, 2021). Here, Dialect has invited the Court to consider evidence of VoiceBox’s products by arguing in its opening claim construction brief that “the claim terms at

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*able to identify context* such as time, location, numbers, dates, categories (e.g., music, movies, television, addresses, etc.) and other context.” (*Id.* at 20:53-60.) This simply means that the “context specific matchers” are used to identify a most likely context (*i.e.*, a domain like music) from the context stack. For example, if the utterance does not fit the permissible language structures for any context, the system can try to match individual words in the utterance with song names, and if a match is found, it could identify “music” as the most likely context. Thus, the paragraph of the specification that Dialect cites does not change the meaning of context in the patents.

<sup>7</sup> VoiceBox is the original owner of the asserted patents. (*See* Dkt. 35, ¶ 1.)



issue . . . simply describe how VoiceBox’s NLU technology works.” (Dialect Br. at 1.)

[REDACTED]

[REDACTED] Thus, in VoiceBox’s NLU technology that Dialect argues is described in the claims, a “context” corresponds to a specific application area or domain, just as Amazon’s construction captures.<sup>9</sup>

The Court should also reject Dialect’s assertion that the claim language needs no construction because it “is easily understood.” (Dialect Br. at 2.) Laypersons may use the word “context” loosely to describe many different ideas. For example, if a person stands behind a register at a grocery store and wears a nametag, one might say that based on “context” this person is a cashier. But this is not how “context” is used in the asserted claims. According to the claims, a “context” is a concrete piece of information—it identifies the specific domain or application area

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[REDACTED]

for formulating and processing the user’s request and it is stored in “context entries” as part of a “context stack,” which is generated by “one or more processors executing one or more computer program modules.” (957 patent cls. 1, 7; *see also* 468 patent cl. 19; 039 patent cl. 17; 006 patent cl. 2.) The claims also recite processing a user’s utterance using “context-specific domain agents,” which are software packages. (006 patent cl. 5, 11:29-37.) Importing a layperson’s nebulous understanding of “context” into these computer-implemented claims would create a nonsensical result. For this reason, it is all the more important that the Court construe the term—the layperson jury must have guidance as to the meaning that applies. *See O2 Micro*, 521 F.3d at 1361-62 (holding that the district court’s failure to construe the term “only if” was legal error and collecting cases that construed otherwise commonly-understood words such as “board,” “golden brown,” “cover,” “included,” “attachment,” and “removable”).

Leaving the term “context” unconstrued will only confuse the jury and invite an improper battle of the experts at trial. The Court should resolve the parties’ dispute now and adopt Amazon’s construction, which captures what the patentee actually claimed.

## II. “context stack”

| Term   | Amazon Construction  | Dialect Construction  |
|--|--|---|
| “context stack”<br>006 patent, claim 2.<br>468 patent, claims 19, 28.<br>957 patent, claims 1, 3, 4, 7.<br>039 patent, claim 17. | an ordered list of elements, each element storing or referencing a context | Plain and ordinary meaning, or in the alternative a data structure that stores or references contexts |

The parties dispute is whether a context stack is an ordered list of elements or simply any data structure. Dialect does not identify any basis to read out the well-known term “stack” from the claims. As Dr. Johnson explained, in this field, a “stack” is a particular data structure in which elements are stored as an ordered list. (Johnson Decl. ¶¶ 74-77.) Indeed, the specifications expressly define a “stack” as just that: “Agents 106 may update a context stack, that includes *an*

*ordered list* of command contexts, to enable follow-up requests.” (468 patent at 20:10-12; 957 patent at 20:44-46; 039 patent at 14:7-9.) Dialect failed to address both this and the technical dictionary evidence cited by Amazon. (Ex. 4, IEEE100: THE AUTHORITATIVE DICTIONARY OF IEEE STANDARDS TERMS (7th ed. 2000) at 1093 (defining “stack” as “[a] list in which items are appended to and retrieved from the same end of the list, known as the top”).) Nor did Dialect offer any expert testimony in support of its construction.

A full reading of the claim language also confirms that the “context stack” is an ordered list. According to claim 2 of the 006 patent, the “context stack” includes “one or more recent contexts.” (See also 957 patent cls. 1, 7 (“context stack” includes “context information that corresponds to a plurality of prior utterances”).) This suggests that the contexts in the context stack are ordered in some way to indicate how “recent” they are. (See 006 patent at 19:50-60 (“The weight of each context for the scoring is based on . . . the age of the contexts.”).)

Dialect asserts that the context stack of the independent claims is “not necessarily ordered” because dependent claim 3 of the 957 patent recites that the context stack is “ordered.” (Dialect Br. at 13.) But claim differentiation—the idea of interpreting claims to avoid redundancy with other claims of the same patent—“is not a hard and fast rule of construction” and “cannot broaden claims beyond their correct scope.” *Kraft Foods, Inc. v. Int’l Trading Co.*, 203 F.3d 1362, 1368 (Fed. Cir. 2000). Dialect’s claim differentiation argument fails because claim 3 adds a new substantive limitation “wherein the one or more processors are further caused to *update*, based on the one or more rank scores, the ordering of the plurality of context entries in the context stack.” (957 patent, cl. 3.) There is thus no redundancy under Amazon’s construction, because claim 3 still has a different scope than claim 1 from which it depends. *Indacon, Inc. v. Facebook, Inc.*, 824 F.3d 1352, 1358 (Fed. Cir. 2016) (“[W]e have declined to apply the doctrine of claim differentiation where, as here, the claims are not otherwise identical in scope.”) Moreover, the

reason claim 3 recites “the plurality of context entries are ordered in the context stack” is simply to provide an antecedent basis for the claimed **updating** of the ordering. Dialect’s purported claim differentiation cannot read out the term “stack,” which has an undisputed ordinary meaning to a POSITA as an ordered list. *O.I. Corp. v. Tekmar Co.*, 115 F.3d 1576, 1582 (Fed. Cir. 1997) (doctrine of claim differentiation “cannot alter a definition that is otherwise clear from the claim language, description, and prosecution history”).

### III. “context entries” and “entries in a context stack”

| Claim Term   | Amazon Construction  | Dialect Construction   |
|--|--|--|
| “context entries”<br>957 patent, claims 1, 3, 4, 5, 7. | elements of an ordered list, each element storing or referencing the context associated with a prior utterance | Plain and ordinary meaning, or in the alternative contexts or references to contexts |
| “entries in a context stack”<br>468 patent, claim 19.  | elements of an ordered list, each element storing or referencing a context                                     | Plain and ordinary meaning, or in the alternative contexts or references to contexts |

Dialect concedes that a context entry is “an entry in a context stack, and the entry is a context or reference to a context.” (Dialect Br. at 12.) Thus, the claimed “context entries” and “entries in a context stack” are elements of an ordered list for the same reasons discussed above. And as explained (*see* Amazon Br. at 10), the 957 patent claims require the “context entries” to correspond to prior utterances. Dialect fails to address this aspect of Amazon’s construction and offers no reason to read out the prior utterance requirement from the claims.

### IV. “grammar”

| Claim Term  | Amazon Construction   | Dialect Construction  |
|---|---|---|
| “grammar”<br>720 patent, claims 1, 31.<br>006 patent, claims 1, 5, 10.<br>039 patent, claim 13. | a formal specification of the permissible structures for a language | Plain and ordinary meaning, or in the alternative, “a set of principles that govern an acceptable input or request” |

The plain and ordinary meaning “is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (*en banc*). As Dr. Johnson explains, Amazon’s proposed construction is an accurate statement of the plain and ordinary meaning of the term to a skilled artisan. Dialect’s proposed construction is unsupported and is entirely the creation of attorneys. The Court should reject Dialect’s litigation-inspired construction and construe the term as proposed by Amazon.

Dialect argues that the term need not be construed because its meaning would allegedly be readily apparent to a lay jury. (Dialect Br. at 26.) But again, while English “grammar” is used by a layperson, the term “grammar” has a known (and different) meaning in spoken language processing, the field of the patents, namely: “a formal specification of the permissible structure for the language.” (See Amazon Br. at 11 (citing Ex. 2, Huang et al., SPOKEN LANGUAGE PROCESSING: A GUIDE TO THEORY, ALGORITHM, AND SYSTEM DEVELOPMENT (2001) at 545-46; Johnson Decl. ¶¶ 83-87, 91-92).) To educate the jury as to the meaning of “grammar” to a skilled artisan, the Court should therefore construe the term as proposed by Amazon. *Sulzer Textil*, 358 F.3d at 1366.

Dialect contends that “grammar” must be construed as a principle for an “acceptable input or request” because the asserted claims purportedly “link” those concepts. (*Id.* at 14-15.) But Dialect’s logic is backward. In the claims of the 720 and 006 patents, recognized words are formulated into questions or commands in accordance with the “grammar” that the domain agent uses to process such questions or commands. (See 720 patent, cls. 1, 31; 006 patent, cl. 1, 5, 10.) The claims thus require that the received words are formulated to fit the grammar used by the domain agent. (Johnson Decl. ¶¶ 83-87, 91-92.) This does not mean that any rule or principle for an “acceptable input or request” is a “grammar” or that the grammar somehow identifies what is an acceptable request. It means that a domain agent can only process a request if formulated in

accordance with a specific grammar (*i.e.*, a specification governing language) that the domain agent understands. (*Id.*)

The intrinsic record of the 039 patent likewise provides no support for Dialect’s construction. Claim 13 recites that text combinations are compared against “entries in a context description grammar,” which is then used to generate a relevance score. (039 patent, cl. 13; *id.* at 13:61-14:9.) That score is then used to select appropriate domain agents—*i.e.*, agents that can process the communications because they can process requests in that grammar. (*Id.*) Again, this does not mean that any principle governing a processed entry is a “grammar.” Instead, an “entry in a context description grammar” specifies the permissible language structures within a particular context, which is then used to identify the appropriate domain agent to generate a response based on its ability to handle requests formulated according to that grammar. (Johnson Decl., ¶¶ 63-64.)

Ultimately Dialect’s construction would read out meaning from the term “grammar.” *See Becton, Dickinson and Co. v. Tyco Healthcare Grp., LP*, 616 F.3d 1249, 1257 (Fed. Cir. 2010) (claims must be “interpreted with an eye toward giving effect to all terms in the claim” and must not “read out” limitations). For instance, for claim 31 of the 720 patent, Dialect contends the claims require only that the parser “transform[] words or phrases into a ***format that the domain agent can use***,” irrespective of whether that “format” is what a skilled artisan would deem a “grammar.” (Dialect Br. at 14.) As a result, under Dialect’s proposal, the term would no longer have any meaning for language modeling or spoken language understanding—the field of the patents—but would encompass any principle governing inputs processed by a domain agent.

Finally, Dialect incorrectly argues that Amazon’s construction would confuse the jury by introducing “extraneous” terms like “language.” But the patent specifications state that the purported invention is directed to the field of language modeling or a spoken language understanding environment in which users may “ask natural language speech questions or give

natural language commands.” (*See, e.g.*, 720 patent at 1:14-21; 006 patent at 1:20-31; 039 patent at 1:25-37.) It is entirely proper to construe the term in accordance with the plain and ordinary meaning of the term to a POSITA. *See K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1365 (Fed. Cir. 1999).

#### V. “domain agent”

| Claim Term   | Amazon Construction   | Dialect Construction                                   |
|--|---|--|
| “domain agent”<br>720 patent, claims 1, 31.<br>006 patent, claims 1, 2, 5, 10.<br>468 patent, claims 19, 30, 32.<br>039 patent, claims 13, 14. | a software package or module that receives, processes and responds to user questions, queries and commands in a specific domain | software with domain-specific behavior and information |

Amazon’s construction mirrors Dialect’s initial proposal for the construction of this term and simply clarifies that a domain agent relates to a “specific” domain. (Ex. 6 at 6 (Dialect originally proposing “software that receives, processes and responds to user questions, queries and commands in a domain”).) And Dialect’s current proposal concedes that a domain agent is “domain-specific.” (*Id.* at 3.) There is thus no dispute that a domain agent “receives, processes and responds to user questions, queries and commands” and relates to a specific domain.

Dialect’s lone argument in support of its proposed construction is that Amazon stipulated to that construction in the *VB Assets* case for a different patent, U.S. Patent No. 8,886,536—a patent Dialect does not own and that is not asserted in this case. (Dialect Br. at 17 (referencing Ex. 8 (“the 536 patent”))). “Domain agent” is a coined term that does not have a generally understood meaning to a POSITA. (Johnson Decl. ¶¶ 105-06.) The meaning of coined terms must be understood by reference to their use in the specification. *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1321 (Fed. Cir. 2013). Here, the asserted patents in this case have different claims, different specifications, and are not in the same patent families as the 536 patent. As both parties recognize, the specification of the asserted patents *in this case* “differentiate[s] between



general-purpose system agents and domain agents.” (Dialect Br. at 19; *see also* Amazon Br. at 14.) While the system agent “provides default functionality and basic services” like “transmitting and receiving information over data networks” or “parsing text strings,” (*see, e.g.*, 720 patent at 4:30-34), domain agents provide domain-specific behavior and data for a specific area of functionality. (*Id.* at 4:24-38.) The 536 patent from the *VB Assets* case, in contrast, makes no mention of a “system agent” and thus did not describe the term “domain agent” with reference to its distinguishing characteristics relative to other types of agents. (*See* Dialect Br. Ex. 8 (536 patent).) The *VB Assets* construction is thus irrelevant and not binding in this case. *SIPCO, LLC v. Emerson Elec. Co.*, 980 F.3d 865, 870 (Fed. Cir. 2020) (“similarly worded claims may be construed differently” in different patents).

Dialect raises three issues with respect to Amazon’s proposed construction. None has merit. First, Dialect argues that the construction need not state that a domain agent “receives, processes and responds to user questions, queries and commands” because that language is “redundant” of the claims and “recites what domain agents do.” (Dialect Br. at 20.) In other words, Dialect concedes that this language in Amazon’s proposed construction accurately describes what domain agents do and reflects how domain agents operate in the claims. (*Id.*) In fact, Dialect even previously proposed that the term be construed as “software that receives, processes and responds to user questions, queries and commands in a domain,” thus further confirming its agreement with Amazon’s proposed construction. (Dkt. 158-8 at 6.) There is, thus, no dispute that Amazon’s proposed construction is accurate. Moreover, Amazon’s construction is not redundant. For instance, claim 1 of the 720 patent states that a natural language speech processing system receives data from domain agents and that an “agent architecture” couples the services of an “agent manager, a system agent, the plurality of domain agents, and an agent library,” without expressly stating what those services are. Amazon’s construction thus is proper



and will allow the jury to understand what the domain agents are and what services they provide. *Sulzer Textil*, 358 F.3d at 1366.

Second, Dialect argues that the term “domain agent” should be construed as “software” as opposed to “a software package or module.” (Dialect Br. at 17-20.) A POSITA would understand that a domain agent is a software package or module. (Johnson Decl. ¶¶ 102-03.) Amazon’s construction flows directly from the description of an “agent” in the patents, which explains that agents are software packages or modules:

Agents are executables that receive, process, and respond to user questions, queries and commands. The agents provide convenient and re-distributable ***packages or modules*** of functionality, typically for a specific domain. Agents can be packages of executable code, scripts, links to information, data, and other data forms, required to provide a specific/package of functionality, usually in a specific domain. . . . Further, agents and their associated data can be updated remotely over a network as new behavior is added or new information becomes available.

(720 patent at 4:5-38; *see also id.* at 21:29-45; 006 patent at 2:54-65, 11:28-37; 468 patent at 27:13-23; 039 patent at 4:38-54.) The 039 patent provides further confirmation that a domain agent is a software package or module, stating, “[a]gents are distributed and redistributed in a number of ways including on removable storage media, transfer over networks or attached to emails and other messages,” which a POSITA would understand is how software packages and modules are distributed. (039 patent, 14:51-54; *see also* 468 patent, 27:29-31; Johnson Decl. ¶ 104.) The specification thus “repeatedly and consistently” characterizes a domain agent as a “software package or module,” and it is, therefore, appropriate to construe the term in accordance with those disclosures. *See GPNE Corp. v. Apple Inc.*, 830 F.3d 1365, 1370 (Fed. Cir. 2016).

Finally, Dialect argues that a domain agent need not respond to user questions, queries, and commands “in a specific domain” because the specification also describes domain agents as using the functionality of “more generalized domain agents.” (Dialect Br. at 20 (citing 720 patent, 4:18-19, 21:49-50; 006 patent, 3:1-2, 11:39-41; 468 patent, 27:66-28:2, 039 patent, 15:23-26).) This

argument is a non sequitur and does nothing to show that a domain agent does not respond to commands or questions in a particular domain. The specification states that domain agents respond to questions, queries, and commands in a specific domain, but they may “query” and “use” other agents such as system agents to do so. (720 patent, 4:44-48.) For example, “a fast food ordering agent” may be invoked, but it “may use the services of a restaurant ordering agent and payment agent, which may in turn, use the services of location agent and a travel services agent” to respond to the query. (*Id.*) This description is entirely consistent with Amazon’s proposed construction, where a domain agent is a software package or module that receives, processes and responds to user questions, queries and commands in a specific domain. That the domain agent can query and use other agents with more generalized functionalities to perform these functions does not change the meaning of this disputed term. The Court should thus adopt Amazon’s proposed construction.

#### VI. “procedures sensitive to the determined context”

| Term   | Amazon Construction                 | Dialect Construction   |
|--|-------------------------------------|--|
| “procedures sensitive to the determined context”<br>006 patent, claim 5. | Indefinite under 35 U.S.C.<br>§ 112 | Plain and ordinary meaning, or<br>in the alternative procedures<br>that consider the determined<br>context |

There is no basis to defer Amazon’s Section 112 indefiniteness challenges until summary judgment. The Court’s scheduling order allows indefiniteness to be raised during claim construction. (Dkt. 147, ¶ 7(b) (requiring parties to “identify the structure, material, or acts corresponding to” each term allegedly governed by Section 112(f)).) This is because “[i]ndefiniteness is a matter of claim construction.” *Media Rts. Techs., Inc. v. Cap. One Fin. Corp.*, No. 1:13-CV-476, 2013 WL 6506176, at \*8 (E.D. Va. Dec. 9, 2013) (Trenga, J.) (*citing Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1348 (Fed. Cir. 2005), *aff’d*, 800 F.3d 1366 (Fed. Cir. 2015)). Consistent with the practice of district courts across the country, district courts in the Eastern District of Virginia routinely decide that claim terms are indefinite at claim construction.

*Id.*; *Geoscope Techs. Pte. Ltd v. Google LLC*, No. 1:22-cv-01331-MSN-JFA, 2023 WL 4627433, at \*7 (E.D. Va. July 19, 2023) (Nachmanoff, J.); *Jaguar Land Rover Ltd. v. Bentley Motors Ltd.*, No. 2:18-cv-320, 2020 WL 7010227, at \*18 (E.D. Va. Oct. 14, 2020) (Davis, J.); *Bushnell Hawthorne, LLC v. Cisco Sys., Inc.*, No. 1:18-cv-760, 2019 WL 2745735, at \*9, 13 (E.D. Va. July 1, 2019) (Ellis, J.), *aff'd*, 813 F. App'x 522 (Fed. Cir. 2020).<sup>10</sup>

On the merits, Dialect does not attempt to explain how a POSITA could have understood the bounds of what constitutes “procedures sensitive to the determined context” with reasonable certainty. Dialect points to claim language introducing “the determined context,” but offers no explanation of what it means for procedures to be “*sensitive to*” the determined context. As for the specification, Dialect only identifies a single sentence that repeats the claim language: “The criteria handlers 152 provide context sensitive procedures for extracting the criteria or parameters from the user's question or command.” (006 patent at 18:19-22.) This sentence does not tell a POSITA anything about the bounds of “procedures sensitive to the determined context,” let alone provide reasonable certainty as to the bounds of the term. (See Johnson Decl. ¶¶ 115.) Nor does Dialect provide any expert opinion on what a POSITA would have understood this term to mean.

As explained in Amazon’s opening brief, Dialect’s construction “procedures that *consider* the determined context” is an arbitrary rewriting of the claims that provides no more certainty than the claim language itself. (See Amazon Br. at 16-17; Johnson Decl. ¶¶ 118.) Combining Dialect’s construction with its amorphous position on “context” further highlights the infirmity of Dialect’s positions. Dialect asserts that a “context” can be *any* data associated with user input. (Dialect Br.

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<sup>10</sup> Nor is there any reason to wait until summary judgment to submit expert testimony, which the Court’s scheduling order specifically allows during claim construction. (Dkt. 147, ¶ 7(d).) Amazon’s expert Dr. Johnson provided a declaration with his understanding of the meaning of the disputed terms, including the indefinite terms. (Dkt. 158-1.) Dialect has retained at least two technical experts in this case and could have attached their opinions with its opening claim construction brief, but Dialect chose not to present any expert opinion.

at 12 (“a context may include a variety of data associated with user input (e.g., location, dialog history, time, date)).”) Thus, Dialect effectively proposes that the claim term “procedures sensitive to the determined context” means “procedures that consider [*any data associated with user input*].” This is an unworkable result. The claim recites, in the first instance, extracting criteria and parameters “from one or more keywords” in the recognized words of the user’s utterance—a step that necessarily considers the keywords, which are data associated with user input. (006 patent, cl. 5.) After this step in the claim, there is a “wherein” clause: “wherein the parser extracts the one or more criteria and the one or more parameters using procedures sensitive to the determined context.” (*Id.*) Dialect’s construction would render the entire “wherein” clause superfluous, because any procedure at all would be covered. This is not what the patentee claimed. *MySpace, Inc. v. GraphOn Corp.*, 672 F.3d 1250, 1256 (Fed. Cir. 2012) (“[I]n construing a claim there are two limiting factors—what was invented, and what exactly was claimed.”).

## VII. TERMS GOVERNED BY 35 U.S.C. § 112, PARAGRAPH 6

### A. The “parser” claim terms are governed by § 112, ¶ 6.

To determine whether a claim is governed by § 112, ¶ 6 the Court must decide “whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *See Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349-51 (Fed. Cir. 2015) (*en banc*). In this case, the parties dispute whether “parser” as recited in the claims has such definite meaning as the name for structure. Amazon has provided expert testimony and a relevant textbook showing that although the concept of “parsing” may have been known, the term “parser” would not have been known to connote any particular structure. (Johnson Decl. ¶¶ 3-9, 44-46, 126-127 (citing Ex. 5, James Allen, *NATURAL LANGUAGE UNDERSTANDING* (Second Ed., 1995) (“Allen”) at 15).) And even if parsing was known as a process for analyzing sentences, Amazon has shown that a parser was not known to be a structure

that performs the completely different set of functions performed by the parser in the claims. (*Id.*)

Dialect does not provide any evidence to the contrary. Dialect’s brief is comprised solely of attorney argument and puts forth no evidence concerning how a skilled artisan would understand the term “parser.” (*See* Dialect Br. at 22-28.) Dialect argues that any software claim reciting functional “operations and objectives” is not subject to § 112, ¶ 6. (*Id.* (citing *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, No. 1:10-cv-910, 2018 WL 1699429, at \*20 (E.D. Va. Apr. 6, 2018); *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1319-21 (Fed. Cir. 2004); *WSOU Investments LLC v. Google LLC*, No. 2022-1064, 2023 WL 6889033, at \*5 (Fed. Cir. Oct. 19, 2023); *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1300 (Fed. Cir. 2014), *overruled by Williamson*, 792 F.3d at 1349).) And by extension, Dialect asserts, any software claim reciting “a set of steps” or “functions” meets this “operations and objectives” standard and does not invoke § 112, ¶ 6. (Dialect Br. at 24, 26-28.) But that is not the law, and the court in the cases cited by Dialect conducts a fundamentally different analysis.

Specifically, the cases explain that when analyzing whether terms like “processor,” “code,” or “circuitry” invoke § 112, ¶ 6, it is proper to look to the functional language in the claims, along with the specification and extrinsic evidence, to determine whether a skilled artisan would be able to “reasonably discern from the claim language that *the limitations were references to conventional programs or code existing in the prior art at the time of the invention*, not just generic terms or black box recitations of structure or abstractions.” *WSOU Investments*, 2023 WL 6889033, at \*5 (Fed. Cir. Oct. 19, 2023) (citing *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003 (Fed. Cir. 2018) (internal quotations omitted)). If the evidence shows that a POSITA could discern that the limitations recited “conventional” programs or “code existing in the prior art,” sufficient structure was found and invoking § 112, ¶ 6 was not necessary. *Id.* Where that evidence did not exist, § 112, ¶ 6 governed.

*WSOU Investments* is a useful example. There, the Federal Circuit determined that the term “processor” in one patent was governed by § 112, ¶ 6 because the intrinsic record described it “so broadly as to generically be any structure that manipulates data” and “describe[d] only in terms of its function.” *WSOU Investments*, 2023 WL 6889033, at \*4. For a different patent, however, the Federal Circuit determined the collective terms “memory,” “computer program code,” and “processor” did not invoke § 112, ¶ 6, as the specification and claims disclosed that each term connoted a well-known structure to a POSITA. For example, the specification explained that the “computer program code” was available “in commercially-available and well-known formats, such as a CD-ROM or DVD,” which was exactly the type of “reference[] to conventional . . . programs or code, existing in prior art at the time of the inventions” that is sufficient to provide structural detail. *Id.* at \*5 (citing *Zeroclick*, 891 F.3d 1003). The Federal Circuit further explained that even though the claims were broad, the terms recited in “combination . . . informs the skilled artisan’s relative understanding of what each structure is and what it is not.” *Id.* at \*4. The analysis, therefore, was not simply whether the claims merely recited “steps,” “functions” or “operations and objectives,” as Dialect contends, (Dialect Br. at 24), but whether the record showed that POSITA would view the terms as having a sufficiently definite structure. *Id.* at \*5.

The *Linear* and *Apple* cases are similar. In *Linear*, the Federal Circuit reviewed a claim reciting multiple “circuits.” *Linear*, 379 F.3d at 1320. The court analyzed the “contextual language” surrounding the claim term, relevant dictionaries, and expert testimony, and concluded that a POSITA would understand the structural arrangements of circuit components. *Id.* And for the term “PWM circuit,” the Federal Circuit did not invoke § 112, ¶ 6 because that term “references a discrete class of circuit structures that perform known functions,” which would have been known to a POSITA and connoted a known structure. *Id.* at 1322. In *Apple*, the Federal Circuit ruled

“heuristic” did not invoke § 112, ¶ 6 because it “has a known meaning” and the intrinsic record made clear how the heuristics operated within the context of the invention including “the inputs, outputs, and *how certain outputs are achieved.*” *Apple*, 757 F.3d at 1300-01.

This Court applied the same analysis in *Amdocs (Israel) Ltd.*, where it analyzed the term “computer code.” Based on “dictionary definitions,” expert testimony that “the term has a definite structure that is understandable” to a POSITA, and claim language that showed “*how the computer code operates,*” the Court determined that recited code connoted a known structure, and the Court did not invoke § 112, ¶ 6. *Amdocs (Israel)*, 2018 WL 1699429, at \*16-17.

The present case is clearly distinguishable from *WSOU Investments*, *Linear*, *Apple* and *Amdocs (Israel)*. In each of those cases, the record showed that the disputed term was not just a “black box” defined by the functions it performs. Rather, the claims and evidence showed that the terms would connote a particular structure to a POSITA—that is, the claims would tell a POSITA how the “processor,” “code,” “heuristics” or “circuitry” operated or described a conventional or well-known structure in the art.

The “parser” limitations here, in contrast, connote no such structure. The only evidence of record shows that while “parsing,” the function, may have been a known concept for analyzing sentences, a “parser” did not connote any particular structure. (Johnson Decl. ¶¶ 126-127 (citing Ex. 5, Allen at 15).) And further, there was no concept of a parser in the art that would provide a structure for performing any of the functions recited in the claims, which extend well beyond analyzing a sentence. (*Id.*); *see also WSOU Investments, LLC v. Xilinx, Inc.*, No. 2020-1228, 2022 WL 2093066, at \*5 (D. Del. June 10, 2022), *report and recommendation adopted*, 2022 WL 16707078 (D. Del. Nov. 4, 2022) (invoking § 112, ¶ 6 for the term “analyzer” because the claims defined the term with reference to functionalities not known to be performed by an analyzer).



The “parser” terms in this case are much closer to the term governed by § 112, ¶ 6 in *WSOU Investments*. Rather than recite structures known in the art, the claims simply recite a series of results. The “parser” is the classic, black-box module “describe[d] only in terms of its function.” *WSOU Investments*, 2023 WL 6889033, at \*4.

**1. “a parser that interprets the recognized words or phrases” (720 patent, claim 1)**

Claim 1 of the 720 patent recites a “parser that interprets the recognized words or phrases” by (1) determining a context for the natural language speech utterance, (2) selecting at least one of the plurality of domain agents based on the determined context; and (3) transforming the recognized words or phrases into at least one of a question or a command. The parser as recited does not connote a known structure, and there was no notion in the art that would provide a structure for performing these claimed functions. (Johnson Decl. ¶¶ 126-27 (citing Ex. 5, Allen at 15).) Because the claim does not connote sufficient structure to a POSITA and the claimed functions extend beyond and concept of a parser in the art, the claim term must be governed by § 112, ¶ 6. *See Williamson*, 792 F.3d at 1349-51; *Xilinx*, 2022 WL 2093066, at \*5.

Dialect’s argument that because the parser “follow[s] a set of steps . . . the claim language provides [a] sufficient description” of the parser’s structure is incorrect. (Dialect Br. at 24.) The proper inquiry is whether a POSITA would understand the term to connote a specific structure given the evidence and claim context, not simply whether functions are recited. *See Williamson*, 792 F.3d at 1349-51; *Apple*, 757 F.3d at 1299 (“The limitation’s operation is more than just its function; it is how the function is achieved in the context of the invention.”). Dialect conducted no such analysis. (Dialect Br. at 23-25.) And simply noting the claim recites a series of results performed by the parser only confirms that it is black-box module defined solely in terms of its



function, which is the “epitome of functional claiming.” *WSOU Investments*, 2023 WL 6889033, at \*4. The Court should thus invoke § 112, ¶ 6.

**2. “determining, at a parser connected to the computer device on the vehicle” (720 patent, claim 31)**

Claim 31 of the 720 patent recites “a parser connected to the computer device on the vehicle” that performs identical functions as claim 1. For the reasons set forth above—the recited parser does not connote a known structure, and there was no concept in the art that would provide a structure for performing these claimed functions—the claim should be governed by § 112, ¶ 6.

Dialect also argues that placing the microprocessor *on a vehicle* provides sufficient structure. (Br. at 26.) This argument has no basis in the law. For software terms like parser, sufficient structure comes from disclosing how to achieve the specified functions performed by the software. *See Apple*, 757 F.3d at 1299. Placing a black box “parser” on a generic computer and further placing that computer on a generic vehicle does nothing to disclose how to achieve the recited functions or otherwise inform the skilled artisan’s relative understanding of what the claimed parser structure is. *WSOU Investments*, 2023 WL 6889033, at \*4. It is, therefore, irrelevant to the § 112, ¶ 6 inquiry.

**3. “parsing, at a parser coupled to the processing device” (006 patent, claims 1 and 10)**

Claims 1 and 10 of the 006 patent recite a “parser” that is “coupled to the processing device.” The parser is defined solely by reference to two functions: (1) “parsing the one or more recognized words or phrases to determine a meaning associated with the utterance and a context associated with the request contained in the utterance . . .,” and (2) “formulating the request contained in the utterance in accordance with a grammar used by a domain agent associated with the determined context.” (Johnson Decl. ¶¶ 120-29.) The parser as recited does not connote a known structure, and there was no notion in the art that would provide a structure for performing

these claimed functions. (*Id.* at ¶¶ 126-27.) The claim term, therefore, must be governed by § 112, ¶ 6. *See Williamson*, 792 F.3d at 1349-51; *Xilinx*, 2022 WL 2093066, at \*5.

Dialect contends that § 112, ¶ 6 does not govern because the claim recites “a parsing step and a formulating step.” (Dialect Br. at 27.) As noted above, this is not a relevant analysis. The proper inquiry is whether a POSITA would understand the term to connote a specific structure given the evidence and claim context, and simply noting the claim recites a series of results performed by the parser only confirms that it is black-box module defined solely by the functions it performs. *WSOU Investments*, 2023 WL 6889033, at \*4.

Dialect also argues that the parser being “coupled to the processing device” connotes structure. (*Id.*) Once again, this argument has no basis in the law. Coupling the parser to the processing device simply means the black-box module is somehow connected to a generic processor, which does nothing to inform the skilled artisan’s relative understanding of the claimed parser structure to achieve its functions. Such a “high level” description of the interaction between two components is insufficient to connote structure. *Williamson*, 792 F.3d at 1351.

**4. “parsing, at a parser coupled to the processing device” (006 patent, claim 5)**

Claim 5 of the 006 patent recites a “parser” that is “coupled to the processing device.” The parser is described solely by reference to two recited functions: (1) “parsing information relating to the utterance to determine a meaning associated with the utterance and a context associated with the request contained in the utterance . . . ,” and (2) “formulating the request contained in the utterance in accordance with a grammar used by a domain agent associated with the determined context,” which includes several sub-functions. (Johnson Decl. ¶¶ 120-29.) The parser as recited does not connote a known structure, and there was no notion in the art that would provide a

structure for performing these claimed functions. (*Id.* at ¶¶ 126-27.) The claim term, therefore, must be governed by § 112, ¶ 6. *See Xilinx*, 2022 WL 2093066, at \*5.

Dialect again argues that by reciting a “formulating step, a parsing step, a transforming step, and an extracting step” § 112, ¶ 6 does not govern. (Dialect Br. at 28.) But simply identifying “steps” is not sufficient because those steps do not connote a known structure in the art to a POSITA. *WSOU Investments*, 2023 WL 6889033, at \*4 (citing *Williamson*, 792 F.3d at 1350).

Dialect also again argues that the parser being “coupled to the processing device” connotes structure. (Dialect Br. at 28.) For software terms like parser, sufficient structure comes from disclosing how to achieve the specified functions performed by the module. *See, e.g., Williamson*, 792 F.3d at 1349-51. Coupling the parser to a processing device simply means the black-box module is somehow connected to a generic processor, which does nothing to inform the skilled artisan’s relative understanding of the structure of the parser. *Williamson*, 792 F.3d at 1351.

#### **B. The “Parser” Terms Are Indefinite**

Dialect has not provided any analysis under the second step of the § 112, ¶ 6 analysis—whether the term is invalid as failing to disclose structure in the specification. (*Id.*) As shown in Amazon’s opening brief, none exists, and therefore each claim should be found invalid as indefinite for lacking structure disclosed in the specification.

To the extent Dialect provides untimely contentions in its responsive brief identifying structure in the specification, Amazon reserves the right to seek appropriate relief from the Court.

### **CONCLUSION**

For the foregoing reasons, the Court should adopt Amazon’s proposed constructions and indefiniteness positions.

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Respectfully submitted,

*Of counsel:*

J. David Hadden, pro hac vice  
dhadden@fenwick.com  
Saina S. Shamilov, pro hac vice  
sshamilov@fenwick.com  
Ravi R. Ranganath, pro hac vice  
rranganath@fenwick.com  
Todd R. Gregorian, pro hac vice  
tgregorian@fenwick.com  
Vigen Salmastlian, pro hac vice  
vsalmastlian@fenwick.com  
Geoffrey R. Miller, pro hac vice  
gmiller@fenwick.com  
Christopher S. Lavin, pro hac vice  
clavin@fenwick.com  
Donna T. Long, pro hac vice  
dlong@fenwick.com  
FENWICK & WEST LLP  
801 California Street  
Mountain View, CA 94041  
Telephone: (650) 988-8500  
Facsimile: (650) 938-5200

/s/ Laura Anne Kuykendall

Robert A. Angle (VSB No. 37691)  
robert.angle@troutman.com  
Laura Anne Kuykendall (VSB No. 82318)  
la.kuykendall@troutman.com  
TROUTMAN PEPPER HAMILTON SANDERS LLP  
1001 Haxall Point  
Richmond, VA 23219  
Telephone: (804) 697-1468  
Facsimile: (804) 697-1339

Mary C. Zinsner (VSB No. 31397)  
mary.zinsner@troutman.com  
TROUTMAN PEPPER HAMILTON SANDERS LLP  
401 9th Street NW, Suite 1000  
Washington, DC 20004  
Telephone: (202) 274-1932  
Facsimile: (202) 274-2994

*Counsel for Defendants*

*Amazon.com, Inc. and Amazon Web Services, Inc.*